



**Hengyi Industries Sdn Bhd**  
**恒逸实业（文莱）有限公司**

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**No.2 Refinery Dept. HSE Comprehensive  
Management Rules**

**炼油二部 HSE 综合管理细则**

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## Preface 前言

This rule is written based on the company T3 Management Regulations documents.

本细则依据公司 T3 管理制度文件制定。

This rule is effective as of Oct 21, 2020.

本细则从 2020 年 10 月 21 起实施。

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	<b>No.2 Refinery Dept. HSE Comprehensive Management Rules</b> <b>炼油二部 HSE 综合管理细则</b>			
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## 1 Purpose 目的

Establish the HSE management system of the second oil refining department to ensure the legal compliance of all HSE work and prevent the occurrence of various production safety accidents. These rules are specially formulated.

建立炼油二部 HSE 管理体系,确保各项 HSE 工作合法合规,防范各类生产安全事故的发生,特制定本细则。

## 2 Scope of Application 适用范围

This system is applicable to all employees of the Refinery Department No. 2.

本制度适用于炼油二部全员。

## 3 Terms and definitions 术语和定义

3.1 "HSE" Three Simultaneous: Refers to the simultaneous design, simultaneous construction, and simultaneous use of HSE facilities and the main project.

“HSE”三同时：指 HSE 设施与主体工程同时设计、同时施工、同时投入使用。

3.2 Change: Refers to changes in content or scope due to process, equipment, management, personnel, standard system, etc., and these changes may cause quality, health, environmental protection, and safety to affect or harm.

变更：指因工艺、设备、管理、人员、标准体系等发生内容的改变或范围的变化，并且这些改变有可能导致质量、健康、环保、安全方面产生影响或危害。

3.3 Significant changes: Refers to changes in the production process that necessitate resubmission of safety cases or risk assessment scores of 70 or more.

重大变更：指生产过程中导致必须重新提交安全例证（safety case）或风险评价分值为 70 分及以上的变更。

3.4 Hidden danger: Refers to the dangerous state, human unsafe behavior and management of things that do not comply with HSE laws, regulations, standards, procedures and HSE management systems, or due to other factors in production and business activities that may cause accidents or increase the consequences of accidents On the defect.

隐患：指不符合 HSE 法律、法规、标准、规程和 HSE 管理制度，或者因其他因素在生产经营活动中存在可能导致事故发生或导致事故后果扩大的物的危险状态、人的不安全行为和管理上的缺陷。

3.5 Accidents: refers to accidents that cause casualties, property losses, environmental

damage, or negative impact on corporate image due to work in the company's production and business activities.

事故：指公司生产经营活动中因工作原因造成人员伤亡、财产损失、环境破坏或企业形象受到负面影响的意外事件。

#### 4 Management responsibilities 管理职责

##### 4.1 Centralized Management Major 归口管理专业

4.1.1 The HSE professional responsibility system (revised) formulates these rules and supervises the implementation of each post.

HSE 专业负责制（修）定本细则并监督各岗位的执行情况。

4.1.2 Establish the department's HSE management organization, implement the company's various HSE management systems and requirements, and inspect and supervise the implementation of the HSE system.

建立本部门 HSE 管理组织，落实公司各项 HSE 管理制度和要求，检查监督 HSE 制度的落实。

4.1.3 Responsible for the implementation of the HSE "three simultaneous" work of the department's construction and technological transformation projects.

负责落实本部门建设和技改项目 HSE“三同时”工作。

4.1.4 Responsible for the daily inspection and operation and maintenance of the HSE facilities of the department.

负责本部门 HSE 设施的日常检查及运行维护工作。

4.1.5 Organize departmental HSE meetings on a regular basis, and be responsible for reporting the development of various safety tasks of the department.

定期组织部门 HSE 会议，负责通报部门各项安全工作开展情况。

4.1.6 Formulate the department's HSE training plan and organize the implementation according to the plan.

制定本部门 HSE 培训计划，并按计划组织实施。

4.1.7 Responsible for supervising and inspecting the implementation and management of various changes; carrying out HSE hidden danger investigation and management to ensure the smooth operation of production equipment.

负责监督、检查各类变更的实施与管理；开展 HSE 隐患排查和治理，保证生产装置的平稳运行。

4.1.8 Responsible for the preparation of the department's on-site disposal plan, and regularly organize drills as planned.

负责编制本部门现场处置预案，按计划定期组织演练。

4.1.9 Responsible for the investigation and handling of departmental HSE accidents and the summary, statistics, and reporting of various accidents.

负责部门 HSE 事故的调查处理和各类事故汇总、统计、上报。

4.1.10 Responsible for the implementation of HSE inspections, assessments, rewards and punishments for contractors within the department.

负责对部门内承包商实施 HSE 检查、考核与奖惩。

## 4.2 Collaborative Management 协同管理专业

### 4.2.1 Process Specialist 工艺专业

4.2.1.1 Responsible for the HSE "three simultaneous" production technology review and process change management for construction and technological transformation projects.

负责建设和技改项目 HSE“三同时”生产技术审查和工艺变更管理。

4.2.1.2 Responsible for organizing the investigation and management of hidden dangers in production, quality and process technology.

负责组织生产、质量及工艺技术专业隐患排查和治理。

4.2.1.3 Responsible for organizing the preparation of production plans and drills for the second refining department, and in accordance with the company's emergency management responsibilities, responsible for production command and coordination during emergency response.

负责组织编制炼油二部生产预案并演练，按照公司应急管理职责，负责应急响应时的生产指挥和协调。

4.2.1.4 Responsible for the investigation and handling of production accidents, statistical reports, and participate in the investigation and handling of other types of accidents.

负责生产事故调查处理、统计报告，参与其它各类事故的调查处理。

4.2.1.5 Responsible for the operation and management of environmental protection devices and facilities, and incorporate environmental protection indicators into process operation control to ensure compliance with emissions.

负责环保装置和设施的运行管理，将环保指标纳入工艺运行控制，确保达标排放。

4.2.1.6 In the process of start-up, shutdown, and trial operation, various process measures and requirements for safety and environmental protection are implemented.

在开停工、试车过程中，落实安全、环保各项工艺措施和要求。

4.2.1.7 Participate in work related to process safety management.

参与工艺安全管理的相关工作。

### 4.2.2 Equipment Specialist 设备专业

4.2.2.1 Responsible for the HSE management of various equipment and facilities to meet the requirements of HSE technical specifications, standards and systems.

负责各种设备、设施的 HSE 管理，使其符合 HSE 技术规范、标准和制度的要求。

4.2.2.2 Responsible for equipment and facility change management.

负责设备、设施变更管理。

4.2.2.3 Responsible for equipment static sealing point management, and organize equipment leakage detection and repair.

负责设备静密封点管理，组织设备泄漏检测与修复。

4.2.2.4 Responsible for the qualification review and management of contractors within the scope of responsibility, and urge contractors to implement the HSE plan for construction operations.

负责职责范围内承包商资格审查和管理，督促承包商落实施工作业 HSE 方案。

4.2.2.5 Responsible for organizing the investigation and management of professional hidden dangers of equipment.

负责组织设备专业隐患排查和治理。

4.2.2.6 Responsible for organizing the preparation of equipment operating procedures and training, in accordance with the company's emergency management duties, responsible for emergency repair work during emergency response.

负责组织编制设备操作规程并培训，按照公司应急管理职责，负责应急响应时的抢修工作。

4.2.2.7 Responsible for the investigation and handling of equipment accidents, statistical reports, and participate in the investigation and handling of other types of accidents.

负责设备事故调查处理、统计报告，参与其它各类事故的调查处理。

## 5 Management Content 管理内容

### 5.1 Management Principles and Contents 管理原则和内容

5.1.1 The integrated HSE management is based on the principles of "who is in charge, who is in charge" and "the business must be in charge of HSE". Within the scope of their respective work, each performs its own duties and responsibilities.

HSE 综合管理按照“谁主管、谁负责”、“管业务必须管 HSE”原则，在各自工作范围内，各司其职、各负其责。

5.1.2 In order to further clarify the requirements of HSE responsibilities, the "HSE Responsibility System" was formulated, see "HSE Job Responsibilities of the Second Refining Department".

为进一步明确 HSE 职责要求，制定《HSE 责任制》，见《炼油二部 HSE 岗位职责》。

5.1.3 The content of HSE comprehensive management includes HSE organization, HSE facility management, HSE meeting, HSE training, HSE logo and signage, change management, operation permit management, accident management, contractor (supplier) HSE management, HSE hidden danger investigation, HSE assessment, Emergency plan management, etc.

HSE 综合管理的内容包括 HSE 组织机构、HSE 设施管理、HSE 会议、HSE 培训、HSE 标识标牌、变更管理、作业许可管理、事故管理、承包商（供应商）HSE 管理、HSE 隐患排查、HSE 考核、应急预案管理等。



## 5.2 HSE organization HSE 组织机构

5.2.1 Head of Department: He is fully responsible for the HSE work of the Second Refining Department. He is the first person responsible for the safety production of the department. He supervises and inspects the implementation of the HSE responsibility system of each position, deliberates and decides on the major HSE work of the Second Refining Department, and achieves the goal of safe production.

部长：对炼油二部 HSE 工作全面负责，是部门安全生产第一责任人，监督检查各岗位 HSE 责任制的落实情况，审议决定炼油二部 HSE 工作重大事项，实现安全生产目标。

5.2.2 Deputy Head of Process (in charge of HSE Specialist): Assist the head of department to take the lead in the HSE work of the Refinery Department No. 2. According to the principle of "management of production, safety must be managed", comprehensively coordinate work safety, and take direct leadership and management responsibility for the safety of the department.

工艺副部长（主管 HSE 专业）：协助部长具体负责、牵头炼油二部 HSE 工作，按照“管生产必须管安全”原则，综合协调安全生产工作，对本部门安全生产负直接领导和管理责任。

5.2.3 Deputy Head of Equipment: Assist the head of department to take the lead in the specific management of the equipment of Refinery Department No. 2. According to the principle of "who is in charge, who is responsible", he shall directly lead and manage the HSE work of the mobile equipment and maintenance engineering of the department.

设备副部长：协助部长具体负责、牵头炼油二部设备管理工作，按照“谁主管、谁负责”的原则，对本部门机动设备及检维修工程的 HSE 工作负直接领导和管理责任。

5.2.4 HSE professional supervisors: assist department leaders to implement various HSE management tasks, directly report HSE work to department supervisors, and put forward HSE management suggestions for various specialties.

HSE 专业主管：协助部门领导具体落实 HSE 各项管理工作，直接向部门主管领导汇报 HSE 工作，提出各专业 HSE 管理建议。

5.2.5 Process professional supervisor: assist the department in charge of the deputy minister of process to be responsible for the process safety of the equipment under his jurisdiction, responsible for the production, process, and technical management of the equipment under his jurisdiction, and strictly implement the company's various HSE management systems.

工艺专业主管：协助部门分管工艺副部长对所辖装置工艺安全负责，负责所辖装置生产、工艺、技术管理工作，严格执行公司各项 HSE 管理制度。

5.2.6 Equipment professional supervisor: Assist the deputy head of the department in charge of equipment to be responsible for the safety of the equipment under his jurisdiction, responsible for the operation, maintenance, inspection and management of the equipment under his jurisdiction, and strictly implement the company's various HSE management systems.

设备专业主管：协助部门分管设备副部长对所辖装置设备安全负责，负责所辖装置设备运行、检

修、检查管理工作，严格执行公司各项 HSE 管理制度。

5.2.7 Monitor: is the first responsible person for safety production of the team and is fully responsible for the HSE work of the team. Inspect and assess the implementation of the HSE responsibility system during the period of each post.

班长：是班组安全生产第一责任人，对本班组 HSE 工作全面负责。检查、考核各岗位在岗期间 HSE 责任制的执行情况。

5.2.8 Deputy monitor: Assist the monitor to implement HSE work and check the implementation of the HSE responsibility system during the period of each post.

副班长：协助班长落实 HSE 工作，检查各岗位在岗期间 HSE 责任制落实情况。

### 5.3 HSE Facility Management HSE 设施管理

#### 5.3.1 HSE Facility Management General Rules HSE 设施管理总则

5.3.1.1 Personnel who use HSE facilities should receive special training and be proficient in using them correctly.

使用 HSE 设施的人员应进行专项培训，并熟练正确使用。

5.3.1.2 The management of HSE facilities should strictly implement the "three fixed and one delivery" system: "fixed storage, designated maintenance, regular inspection, and included in the shift" to ensure that they are in good condition.

HSE 设施的管理应严格执行“三定一交”制度：“定点存放、定人维护、定期检查，列入交接班”，确保完好备用。

5.3.1.3 Each team shall check the HSE facilities regularly, and the HSE facilities that need to be verified are handed over to each professional supervisor for regular verification.

各班组应对 HSE 设施定期检查，需校验的 HSE 设施交由各专业主管定期校验。

5.3.1.4 HSE facilities shall not be left unused, disabled, remodeled, misappropriated or demolished.

HSE 设施不得无故闲置、停用、改造、挪作它用或拆除。

5.3.1.5 It is strictly forbidden to pile up debris around the fire, emergency, and gas defense facilities, and keep them in a good condition that can be accessed at any time.

消防、应急、气防设施周围严禁堆放杂物，保持随时可以取用的良好状态。

5.3.1.6 HSE facilities maintenance, inspection and repair work should be included in professional management, and when formulating equipment inspection and repair plans, safety facilities should be covered.

#### 5.3.2 Fire fighting equipment 消防设备设施

##### 5.3.2.1 Classification of fire fighting equipment 消防设备设施分类

(1) Fire control room: refers to the room where the automatic fire alarm system and the terminal display of the fire and gas detection system (FGS system) are set up.

消防控制室：是指设置火灾自动报警系统、火灾和气体探测系统（FGS 系统）终端显示器的房间。

(2) Fire-fighting equipment and facilities: refers to the system and its main components that are fixed or semi-fixed within the scope of the device and have the functions of fire prevention, fire fighting, rescue, and evacuation. Including but not limited to the following systems: automatic fire alarm, FGS, emergency broadcast and communication, sprinkler systems, fixed fire monitors, indoor and outdoor fire hydrants, emergency evacuation, fire steam, etc.

消防设备设施：是指固定或半固定设置于装置范围内，具有防火、灭火、救援、疏散等功能的系统及其主要部件。包括但不限于以下系统：火灾自动报警、FGS、应急广播和通讯、喷淋系统、固定消防炮、室内外消火栓、应急疏散、消防蒸汽等。

(3) Fire-fighting equipment: refers to equipment that is easy to move and operate, and has the functions of protection, fire fighting, and rescue. Including but not limited to the following equipment: fire extinguisher, fire hose, fire gun.

消防器材：是指便于移动和操作，具有保护、灭火、救援等功能的装备。包括但不限于以下装备：灭火器、消防水带、消防枪。

#### 5.3.2.2 Fire fighting equipment and facilities management content 消防设备设施管理内容

(1) Fire safety work adheres to the principle of "who is in charge, who is responsible" and implements a fire safety responsibility system. Every employee in the department has the obligation to maintain fire safety, protect fire-fighting facilities, prevent fires, report fire alarms and participate in fire fighting.

消防安全工作坚持“谁主管、谁负责”的原则，实行防火安全责任制。部门内每位员工都有维护消防安全、保护消防设施、预防火灾、报告火警和参加灭火的义务。

(2) Each team is responsible for daily inspections and sanitary cleaning of fire-fighting facilities and equipment in the team area; small fire-fighting equipment inspections are not less than 2 times a month (the first and third weeks of each month, the team organizes inspections of the fire-fighting equipment in the team area ).

各班组负责班组区域内消防设施、器材等进行日常检查及卫生清理；小型灭火器材检查每月不少于 2 次（每月第一周及第三周班组组织对班组区域内的消防器材进行检查）。

(3) Fire-fighting facilities such as fire hydrants, fire water monitors, fire hose reels, and deluge valve sets are tested every six months to confirm that they are in good condition and ready for use.

消防栓、消防水炮、消防软管卷盘、雨淋阀组等消防设施每半年测试一次，确认完好备用。

(4) When personnel at all levels find damaged, aging, or rusted fire-fighting equipment and parts during inspection, they should contact the person in charge of the installation in time, and replace them after inspection and confirmation.

各级人员在检查中发现有损坏、老化、锈蚀的消防设备、部件，应及时联系装置主管人员，经检查确认后，予以更换。

(5) After the fire and gas detection system (FGS system) alarms, post personnel must confirm, record, and deal with it in time.

火灾和气体探测系统（FGS 系统）报警后岗位人员必须及时确认、记录、处理。

(6) No one is allowed to damage, misappropriate, dismantle, disable, bury, occupy, or cover fire-fighting equipment and equipment without authorization; it is forbidden to use fire hydrants, fire monitors, and fire pipelines as supporting points or stress points.

任何人不得擅自损坏、挪用、拆除、停用、埋压、圈占、遮挡消防设施设施及器材；禁止将消火栓、消防炮、消防管线等作为支撑点或受力点。

(7) Fire-fighting equipment should be placed in a place that is obvious and easy to operate, and should not affect safe evacuation; used equipment should be supplemented and replaced in time, and the place of installation should not be moved at will.

消防器材应放置在显眼易操作之处，不得影响安全疏散；使用过的器材应及时补充、更换，设置地点不得随意挪动。

(8) It is forbidden to narrow the fire separation distance, block or occupy fire passages at will; it is forbidden to close or block evacuation passages and safety exits; it is forbidden to move, embezzle, or damage various fire safety signs without authorization.

禁止缩小防火间距，不得随意堵塞、侵占消防通道；禁止封闭、堵塞疏散通道、安全出口；禁止擅自移动、挪用、损坏各类消防安全标识。

(9) During the normal production period, the water horse at the main entrance of each device should be kept in a closed state. In an emergency state, the water horse should be moved before the fire truck to ensure the normal passage of vehicles.

正常生产期间应保证各装置主要入口处水马处于封闭状态，应急状态时，在引消防车前搬开水马以保证车辆正常通行。

### 5.3.3 Fixed alarm detector 固定式报警检测器

5.3.3.1 The two fixed alarm detectors of the oil refinery are divided into combustible gas alarm detectors, hydrogen sulfide alarm detectors, hydrogen alarm detectors, and ammonia alarm detectors.

炼油二部固定式报警检测器分为可燃气体报警检测器、硫化氢报警检测器、氢气报警检测器、氨气报警检测器。

5.3.3.2 Each team conducts regular inspection and maintenance of the fixed alarm detectors in the team area, including visual inspection, regular calibration with instruments, and sanitary cleaning.

各班组对班组区域内的固定式报警检测器进行定期检查及维护，包括外观检查、配合仪表定期校验及卫生清理等。

5.3.3.3 The panel operator should pay attention to the value of fixed alarm detector at any time. If hydrogen sulfide and ammonia gas are found to be abnormal, contact the field operator in time and wear a positive pressure air respirator to the site for confirmation. In case of numerical abnormalities of combustible gas and hydrogen, use explosion-proof work to confirm on site; If found abnormal situation of instrument, contact professional instrument to deal with, to ensure the normal use of the instrument. At the time of confirmation, one person shall confirm and one

person shall monitor.

内操应随时关注固定式报警检测器的数值，如发现硫化氢、氨气数值异常及时联系外操佩戴正压式空气呼吸器至现场进行确认；如发现可燃气体、氢气数值异常时使用防爆工作至现场确认；如发现仪表异常情况时联系仪电专业进行处理，保证仪表的正常投用。确认时应一人确认一人监护。

5.3.3.4 The internal operation shall record the fixed alarm detector problems occurring during the shift on the "Refinery Department 2

FGS System Alarm Record Sheet".

内操应将当班期间内出现的固定式报警检测器问题记录在《炼油二部 FGS 系统报警记录表》上。

#### 5.3.4 Anti-poisoning facilities 防止中毒设施

5.3.4.1 The department deals with the prevention of poisoning facilities including but not limited to: positive pressure air respirators, eye washers, gas masks, etc.

本部门涉及防止中毒设施包括但不限于：正压式空气呼吸器、洗眼器、防毒面罩等。

5.3.4.2 During the shift inspection, each shift group shall check all kinds of facilities for preventing poisoning to ensure that they are in good condition. If any abnormality is found, it shall put forward and request the shift group to deal with it in time. Meanwhile, it shall record in the shift record and report to the on-duty management personnel.

各班组在接班检查时对各种防止中毒设施进行检查，确保其完好投用，如发现异常及时提出并要求交接班组处理，同时在交接班记录中进行记录并汇报值班管理人员。

5.3.4.3 When necessary, all kinds of anti-poisoning facilities should be used correctly to ensure their own safety.

必要时应正确使用各类防止中毒设施，保障自身安全。

#### 5.3.5 Portable detection alarm, communication and alarm equipment 便携式检测报警器、通讯报警设备

5.3.5.1 The department deals with portable detectors including hydrogen gas, hydrogen sulfide, and tetragonal portable detectors. Communication alarm equipment mainly refers to walkie-talkie.

本部门涉及便携式检测报警器包括：氢气、硫化氢、四合一等便携式检测器。通讯报警设备主要指对讲机。

5.3.5.2 Portable detection alarms and walkie-talkies shall be included in the shift shift scope. The shift team shall ensure that they are in good condition to ensure normal use. The handover shall be checked and recorded truthfully.

便携式检测报警器、对讲机等纳入交接班范围，交接班组确保完好使用，接班班组落实完好情况保证正常使用，检查交接情况如实进行记录。

5.3.5.3 If any defective equipment is found, it shall be reported to the HSE supervisor of the device in time and submitted to the instrument control Department for inspection and

maintenance.

发现设备不完好应及时汇报装置 HSE 主管人员，并报送仪表控制部检查维护。

5.3.5.4 Use all kinds of alarms and walkie-talkies correctly, and do not intentionally damage them or use them for other purposes.

正确使用各类报警器、对讲机等，不得故意损坏或另做他用。

5.3.6 Management requirements for hydrogen sulfide prevention 硫化氢防范管理要求

5.3.6.1 All personnel entering the hydrogen sulfide alarm area must carry portable hydrogen sulfide alarms and protective devices as required.

所有进入硫化氢危害区域的人员必须按要求携带便携式硫化氢报警仪和防护器具。

5.3.6.2 Appropriate protective equipment should be selected according to the working environment of different positions. Isolated air respirators should be used in areas with hydrogen sulfide leakage and unknown concentration.

根据不同岗位的工作环境选用合适的防护器具，当硫化氢泄漏、浓度不明的区域内应使用隔离式空气呼吸器。

5.3.6.3 Operators should take personal protection and carry portable hydrogen sulfide alarm device when entering the hydrogen sulfide alarm area patrol. When working in the hazardous area of hydrogen sulfide leakage (such as sampling, opening of pipeline equipment and other operations involving hydrogen sulfide leakage), a positive pressure air respirator should be worn, warning signs should be set around the operation site, and a special person should be assigned to monitor the operation.

操作人员进入硫化氢危害区域巡检，应做好个体防护，携带便携式硫化氢报警仪。在硫化氢泄漏危害区域作业（如取样、管线设备打开作业等涉及硫化氢泄漏的作业），应佩戴正压式空气呼吸器，作业点周围设置警示标示，并有专人监护。

5.3.6.4 When the construction and maintenance personnel enter the hydrogen sulfide hazard area for work, the team leader shall organize the maintenance personnel to identify and inform the risk of hydrogen sulfide hazard in the work area, and require them to be equipped with necessary protective equipment and emergency rescue facilities.

施工检修人员进入硫化氢危害区域作业时，班组长应组织检修人员对作业区域硫化氢危害进行风险识别和告知，要求其配备必要的防护器具和应急救护设施。

5.3.7 The environmental protection facilities 环保设施

Refer to the Environmental Management Rules of the Refinery Department 2.

参照《炼油二部环保管理细则》执行。

5.4 HSE training HSE 培训

#### 5.4.1 HSE training for operation staff 操作岗位员工 HSE 培训

5.4.2.1 New employees in production operation positions shall receive level-3 HSE training for 72 hours. See employee HSE Education Card for specific requirements.

生产操作岗位新员工应接受三级 HSE 培训，时间为 72 学时。具体要求见《员工 HSE 教育卡》。

5.4.2.2 Employees who have been working in the company for more than six months shall receive HSE training at the operation department and team level, and shall be allowed to take up the post after passing the examination

员工在公司内工作调动、转岗以及脱离岗位六个月以上者，应进行运行部、班组级 HSE 培训，经考试合格后方可上岗。

#### 5.4.2 Team HSE activities 班组 HSE 活动

5.4.2.1 Contents of HSE activities of team members 班组 HSE 活动内容

(1) Learning HSE documents, notifications, HSE rules and regulations;

学习 HSE 文件、通报、HSE 规章制度；

(2) Learn the knowledge of safety and environmental protection technology and occupational safety protection;

学习安全环保技术知识，职业安全防护知识；

(3) Combined with accident cases, discuss and analyze typical accidents, summarize and draw lessons from accidents;

结合事故案例，讨论分析典型事故，总结吸取事故教训；

(4) To carry out study and exercise of emergency plans;

开展应急计划的学习、演练；

(5) Risk identification and evaluation, learning of risk reduction measures;

风险识别与评价、风险削减措施的学习；

(6) Carry out safety technology lectures, safety experience sharing, etc.

开展安全技术讲座、安全经验共享等；

(7) Other stipulated contents

其他规定的内容。

5.4.2.2 Organization requirements for HSE activities of team and team 班组 HSE 活动组织要求

(1) The Refinery Department 2 shall, in accordance with the content of the HSE activity plan assigned by the company, formulate the HSE activity plan of each installation team of the department.

炼油二部根据公司下达的班组 HSE 活动计划内容，制定本部门各装置班组 HSE 活动计划。

(2) The HSE activity of the shift group requires all members of the shift group to participate, and the sub-shift time shall be organized once a month, each time shall not be less than 2

hours.

班组 HSE 活动要求班组全员参与，每月副班时间组织 1 次，每次不得少于 2 小时。

(3) Team HSE activity time: sub-team time per month.

班组 HSE 活动时间：每月副班时间。

(4) HSE activity site of team: meeting room on the second floor of CCR or installation site.

班组 HSE 活动地点：CCR 二楼会议室或装置现场。

(5) Department heads, each professional management personnel according to shift HSE programs assigned to the corresponding team to participate in team HSE activities, the corresponding professional management personnel must attend monthly team HSE activities, department heads to attend at least once a month team HSE activities, ensure the safety of each team have management personnel to participate in the activity, for the control of term organizational form. At the same time, leaders and management personnel actively participate in the discussion and speak, conduct professional communication and training for the team, and sign their names in the team HSE activity record.

部门领导、各专业管理人员根据班组 HSE 活动计划分配到对应班组参加班组 HSE 活动，各专业管理人员每月需参加对应班组 HSE 活动，部门领导每月至少参加一次班组 HSE 活动，确保每个班组的安全活动都有管理人员参加，对各班组组织形式进行把关。同时，领导和管理人员积极参与讨论发言，对班组进行专业交流与培训，并在班组 HSE 活动记录中签名。

(6) The HSE activities of the shift group shall be presided over by the monitor or deputy monitor, and shall be prepared in advance according to the contents of the learning materials of the week, and shall not be conducted in a scripted way. The organization process shall focus on the key points.

班组 HSE 活动由班长或副班长主持，应根据当周学习材料内容提前进行准备，杜绝照本宣科、走形式，组织过程应抓住重点。

#### 5.4.2.3 Form of HSE activities of team and group: 班组 HSE 活动形式：

(1) Host: Explain to the team members according to the content of the learning materials;

主持人：根据学习材料内容对班组人员进行讲解；

(2) Team members: all team members discussed and analyzed according to the learning content, and made speeches;

班组人员：各班组全员根据学习内容进行讨论分析，并进行发言；

(3) Host: Summarize according to the learning content, team members' speeches, etc.;

主持人：根据学习内容、班组人员发言等情况进行总结归纳；

(4) Recorder: make records according to the content of activities, and select 2~3 speakers to record.

记录人：根据活动内容如实进行记录，选择 2~3 人发言内容进行记录。

#### 5.4.2.4 HSE activity record requirement of team 班组 HSE 活动记录要求

(1) The HSE activity record of the team shall include: time, place, reason of non-participants,



signature of management personnel, host, activity content, etc. (For non-participants, supplementary activity content shall be signed and date of supplementary study shall be indicated on the second page).

班组 HSE 活动记录内容包括：时间、地点、未参加人员原因、管理人员签字、主持人、活动内容情况等，（未参加活动的要补学活动内容，并在第二页里签字和注明补学日期）。

(2) The log book of HSE activities of team and team shall be recorded according to the materials given by the department. It shall be written neatly and be full of details. Each time, the summary content of each learning material should be recorded first, and then the learning thoughts, speeches and other contents of some team members should be recorded. Finally, the summary content should be recorded. If the record content is not enough, you can fill it in the supplementary learning page on the second page. The form content should be filled in according to the actual situation. The blank space should be dropped with a single horizontal bar.

班组 HSE 活动记录本按照部门给定材料进行记录，书写工整，内容详实；每次应先记录各学习材料总结内容，再记录部分班组人员学习感想、发言等内容，最后记录总结归纳内容；记录内容不够可以填写至第二页补充学习页中，表格内容根据实际情况进行填写，空白处用单横线杆掉，记录内容不得出现空行，正文最后一行写“参与人员签字”。

(3) The team leader shall designate a special person to be responsible for the establishment of HSE activity records of the team, the summary, comments and speeches of the team members participating in the team activities and the authenticity of HSE activity records of the team members. The team leader shall check the HSE activity record of the team and supervise the team member's signature after study, and shall not sign on behalf of the team member.

班组长指定专人负责班组 HSE 活动记录的建立，负责班组人员参加班组活动的总结、讲评发言等内容的记录，对班组 HSE 活动记录的真实性负责。各班组长要对班组 HSE 活动记录进行检查并监督班员在学习后签字，要求不得代签。

(4) The safety management personnel of the department shall verify the effect of HSE activities of shifts and groups, and the leader in charge of the installation shall conduct monthly inspection, comment and sign on the implementation of HSE activities of each shift and group.

部门安全管理人员进行班组 HSE 活动效果验证，装置主管领导对各班组 HSE 活动开展情况进行月检，点评并签字。

(5) Each shift team shall timely record HSE activity records monthly, and put them into the relevant folders in the data cabinet of the central control room after recording.

各班组每月及时记录 HSE 活动记录，记录完后及时放入中控室资料柜内相应文件夹内。

## 5.5 HSE signs HSE 标识

### 5.5.1 Type of HSE signs HSE 标识分类

According to the nature of identification, it can be divided into the following six types: equipment

identification; Safety identification; Occupational hazard warning labels; Environmental protection label; Fire protection identification; Traffic signs.

依据标识性质，可划分为以下六种类型：设备标识；安全标识；职业病危害警示标识；环保标识；消防标识；交通标识。

## 5.5.2 HSE signs management HSE 标识管理

5.6.3.1 The HSE marks in the production area shall be subject to requirements and daily management by the HSE professional.

生产区域内的 HSE 标识由 HSE 专业负责提报需求和日常管理。

5.6.3.2 HSE mark shall not be removed or damaged without authorization. If any defect or fall off is found, the responsible team shall replace or restore the HSE mark in time as required. Those who intentionally damage the HSE mark shall be punished in accordance with the relevant provisions of The Performance Assessment Rules of Refinery Department 2.

HSE 标识不得擅自拆动或损坏，若发现缺损、脱落，责任班组应按要求及时更换或恢复，故意损害者，按照《炼油二部绩效考核细则》相关规定进行处罚。

## 5.6 Change Management 变更管理

### 5.6.1 Change management content 变更管理内容

#### 5.6.1.1 Process technical Change 工艺技术变更

(1) New construction, reconstruction and expansion of production equipment.

生产装置新建、改建、扩建。

(2) Change of production process technology route.

生产工艺技术路线改变。

(3) Process control index revision, alarm interlock change.

工艺控制指标修订、报警联锁改变。

(4) Processing new varieties of crude oil for the first time.

首次加工原油新品种。

(5) Varieties of chemical raw materials.

化工原材料品种变化。

(6) Process technical regulations and post operation method changes.

工艺技术规程、岗位操作法改变。

#### 5.6.1.2 Equipment and facilities equipment 设备、设施变更

(1) Renewal and transformation of key parts of equipment and facilities;

设备、设施的关键部位更新、改造；

(2) Substitution of equipment and materials.

设备、材料的代用。

(3) Electrical equipment added temporarily.

临时增加的电气设备。

(4) Changes in the power system and public works.

电力系统及公用工程的变化。

(5) Change of equipment alarm interlock.

设备报警联锁的改变。

(6) Revision of equipment operating procedures.

设备操作规程的修订。

5.6.1.3 Other types of Changes (The specific requirements of the company shall prevail)

其他类变更(具体以公司要求为准)

## 5.6.2 Change application and approval 变更申请和审批

### 5.6.2.1 Change application 变更申请

In the process of company system management, all changes that are inconsistent with the requirements of the management system documents and that have or will have an impact on system management should go through the change procedures, and the department where the change is located should fill in the "Change Application Approval Form".

在公司体系管理过程中,凡与管理体系文件规定要求不符的,已经或将对体系管理产生影响的变更事项,均应办理变更手续,由变更所在部门填写《变更申请审批表》。

### 5.6.2.2 Change approval 变更审批

(1) General changes: After the operation department submits the application for change, various professional management personnel will be organized to jointly analyze the necessity, feasibility and risk assessment of the changed project, and report to the leader of the superior competent department for approval.

一般变更:运行部门提出变更申请后组织各专业管理人员,对变更项目共同进行必要性、可行性及风险评估的分析,并上报上级主管部门领导审批。

(2) Significant changes: The operation department should organize related departments and competent departments to jointly conduct risk assessments, and prepare corresponding emergency plans and submit them to the company's supervisors for approval.

重大变更:运行部门应组织相关部门、主管部门等共同进行风险评估,并编制相应的应急预案报公司主管领导审批。

## 5.6.3 Change implementation 变更实施

5.6.3.1 The change supervisor professionally formulates the change implementation plan or change plan, and clarifies the content of the change, the person responsible and the control target.

变更主管专业制定变更实施计划或变更方案,明确变更内容、责任人和控制目标。

5.6.3.2 After receiving the change implementation plan or change plan, the change supervisor major shall formulate the implementation plan.

变更主管专业接到变更实施计划或变更方案后，制定实施方案。

5.6.3.3 The change supervisor major shall promptly notify relevant departments and post personnel of the change project implementation plan and emergency plan in written form, clarify the division of labor and responsibilities, and provide necessary skill training for relevant personnel.

变更主管专业应及时将变更项目实施方案和应急预案以文字形式通知相关部门和岗位人员，明确分工和职责，并对相关人员进行必要的技能培训。

5.6.3.4 The changes in the documents and data caused by the changes and the records generated shall comply with the company system requirements.

变更引起文件和资料的变化以及产生的记录应执行公司体系要求。

#### 5.6.4 Change supervision and management 变更监督管理

The management of the implementation process of the change project shall be supervised and monitored by professional technical and management personnel. During the change process, if there is an emergency, it shall be implemented in accordance with the prepared emergency plan.

变更项目实施过程管理，应由专业技术和管理人员进行现场监督和监护。变更过程中，如出现紧急情况，应按所编制的应急预案执行。

#### 5.6.5 Change acceptance 变更验收

5.6.5.1 After the implementation of the change is completed, the professional organization in charge of the change shall be responsible for the acceptance. The acceptance content mainly includes the completeness, applicability, effectiveness, safety and reliability of the project and its impact on the environment.

变更实施结束后，应由变更主管专业组织验收，验收内容主要包括项目的完整性、适用性、有效性、安全可靠性及对环境的影响。

5.6.5.2 Acceptance shall evaluate the implementation of the change to determine whether the change meets the requirements. For changes that do not meet the requirements, you should find out the reasons, propose an improvement plan and implement it again, organize a review after completion, and fill in the "Change Project Acceptance Form".

验收应对变更的实施做出评价，以确定变更是否符合要求。对不符合要求的变更，应找出原因，提出改进方案后并再次实施，完成后再组织复审，并填写《变更项目验收表》。

#### 5.7 HSE hidden danger investigation HSE 隐患排查

### 5.7.1 Hidden danger classification 隐患分级

Hidden dangers are divided into general hidden dangers and major hidden dangers according to the difficulty of rectification and the severity of the possible consequences.

隐患按照整改难易及可能造成后果的严重性，分为一般隐患和重大隐患。

#### 5.7.1.1 General hidden dangers 一般隐患

rectified in time and are not enough to cause casualties and property losses.

是指能够及时整改，不足以造成人员伤亡、财产损失的隐患。

#### 5.7.1.2 Major hidden danger 重大隐患

Refers to hidden dangers that cannot be rectified immediately and may cause casualties and large property losses.

是指无法立即整改且可能造成人员伤亡、较大财产损失的隐患。

### 5.7.2 Classification of hidden dangers 隐患排查分类

Based on its own reality, this department uses both daily and regular methods to investigate various hidden dangers of safety and environmental protection accidents at the scene.

本部门结合自身实际，采用日常性和定期性两种方式排查现场各类安全环保事故隐患。

#### 5.7.2.1 Routine investigation of hidden dangers 日常隐患排查

It means that various hidden dangers should be searched for and rectified at any time during daily inspections, safety inspections, on-site operations, and production management.

是指在日常巡检、安全检查和现场操作以及生产管理过程中,对各类隐患要随时查找,随时整改。

#### 5.7.2.2 Regular investigation of hidden dangers 定期隐患排查

Regular methods include comprehensive hidden danger investigation, professional investigation, seasonal investigation, major events and pre-holiday investigation, accident analogue hidden danger investigation, HSE hazard factor identification, etc.

定期性方式包括综合性隐患排查、专业性排查、季节性排查、重大活动及节假日前排查、事故类比隐患排查、HSE 危害因素辨识等。

### 5.7.3 Frequency of hidden danger investigation 隐患排查频次

5.7.3.1 The on-site inspection interval of the device operator shall not be more than 2 hours, and the on-site inspection shall be carried out by means of continuous inspection.

装置操作人员现场巡检间隔不得大于 2 小时，采用不间断巡检方式进行现场巡检。

5.7.3.2 All professional management personnel shall conduct relevant professional inspections on the installation site every day.

各专业管理人员每天应对装置现场进行相关专业检查。

5.7.3.3 Each major shall formulate daily, weekly, and monthly inspection checklists based on professional characteristics and actual production conditions, and continuously improve in practical applications.

各专业应根据专业特点和实际生产情况制定日、周、月检检查表，并在实际应用中不断持续改进。

#### 5.7.4 Treatment of hidden dangers 隐患治理

5.7.4.1 When personnel at each position discover hidden dangers, the shift leader will review and enter the hidden danger investigation and management account, and take necessary emergency measures to initially judge its nature.

各岗位人员发现隐患，由当班班长审核后录入隐患排查治理台账，并采取必要的应急措施后，初步判断其性质。

(1) If it can be dealt with immediately, the on-duty team directly informs the equipment maintenance department to go to the scene to eliminate the defect in time;

能立即处理的，当班班组直接通知设备检修部门及时到现场进行消缺处理；

(2) If it cannot be dealt with immediately, the on-duty team will report to the professional supervisor of the department, and the professional supervisor will rectify the hidden dangers according to the actual situation, include them in the maintenance plan and incorporate the department's "Hidden Hazard Management Tracking Form" for dynamic management.

不能立即处理的，当班班组向部门专业主管人员汇报，专业主管人员根据实际情况进行隐患整改，列入检修计划并纳入部门《隐患治理跟踪表》进行动态管理。

(3) For the major hidden dangers identified, the professional person in charge of the department shall report to the department head and the relevant management department of the company; the safety director shall report to the HSE management department, and the HSE management department will organize an assessment and determine whether it is included in the management of major hidden dangers and report to the head of the company Implement after approval.

对于排查出的重大隐患，由部门专业负责人上报部门主管领导及公司相关管理部门；安全主管人员上报 HSE 管理部，HSE 管理部组织评估认定其是否纳入重大隐患管理，报公司主管领导审批后实施。

(4) For major hidden dangers, professional supervisors should organize the formulation of hidden danger control plans and implement them after demonstration. The major hidden danger management plan should include:

对于重大隐患，专业主管人员应组织制定隐患治理方案，经论证后实施。(重大隐患治理方案应包括：

1) Goals and tasks of governance;

治理的目标和任务；

2) Methods and measures taken;

采取的方法和措施；

### 3) Implementation of funds and materials;

经费和物资的落实;

### 4) Institutions and personnel responsible for governance;

负责治理的机构和人员;

### 5) Time limit and requirements for governance;

治理的时限和要求;

### 6) Safety measures to prevent accidents during rectification.

防止整改期间发生事故的安全措施。

5.7.4.2 here the control of hidden dangers involves process, equipment, and management changes, it shall be implemented in accordance with the change management requirements.

隐患治理涉及工艺、设备、管理变更的, 应按照变更管理要求执行。

## 5.7.5 Hazard monitoring 隐患监控

For the hidden hazards included in the department's "Hidden Hazard Management Tracking Form", monitoring measures should be formulated and implemented, and all team members should master the hidden hazard emergency measures taken in emergency situations

对于纳入部门《隐患治理跟踪表》的隐患, 应当制定和落实监控措施, 各班组全员应掌握紧急情况下采取的隐患应急措施

## 5.7.6 Hidden danger acceptance 隐患验收

5.7.6.1 After the treatment of general hidden dangers is completed, the department's professional supervisors will organize the inspection and acceptance by themselves, and the sales item will be closed after the acceptance is passed.

一般隐患治理完成后, 由部门专业主管人员自行组织验收, 验收合格后予以关闭销项。

5.7.6.2 After the treatment of major hidden dangers is completed, the professional competent department in charge of hidden dangers shall organize the inspection and acceptance, and close the sales items after passing the acceptance.

重大隐患治理完成后, 由隐患专业主管部门组织牵头进行验收, 验收合格后予以关闭销项。

## 5.8 HSE hidden danger reward HSE 隐患奖励

### 5.8.1 Reward declaration procedure 奖励申报程序

After each team member discovers the hidden danger, within 5 working days from the date of discovery, report the "Hidden Hazard Checking and Guaranteeing Safety Award Application Form" and the "Hidden Hazard Checking and Guaranteeing Safety Award Statistics Form" to the installation safety supervisor. Late declaration will not be rewarded. After the department is

rated as two types of department-level and company-level hidden danger rewards in accordance with the "Hidden Hazard Checking and Safety Reward Evaluation Standards", the department will submit the reward application form and statistical form to the HSE Department before the 25th of each month.

各班组人员发现隐患后，自发现日起 5 个工作日内将《查隐患 保安全奖励申请表》及《查隐患 保安全奖励统计表》报至装置安全主管人员，逾期申报不予奖励。由部门按照《查隐患 保安全奖励评估标准》评为部门级和公司级隐患奖励两类后，由部门在每月 25 日前将奖励申请表以及统计表报送 HSE 部。

### 5.8.2 Reward declaration requirements 奖励申报要求

5.8.2.1 The content reported by each team must be clear and true, and must not be falsely reported; no awards should be shared or expanded, and no rewards should be awarded without merit; if fraudulent or deliberately created hidden dangers are found, the assessment shall be doubled in accordance with the relevant provisions of the department's assessment.

各班组上报内容必须事实清楚真实，不得虚报；不得分摊奖励或扩大奖励范围、不得无功受奖；发现弄虚作假、蓄意制造隐患的，按照部门考核相关条款进行加倍考核。

5.8.2.2 The parties who cause hidden dangers or accidents due to man-made reasons or due to incomplete work or inadequate inspections shall not enjoy hidden danger rewards.

由于人为原因或因工作不落实、巡检不到位而酿成隐患或造成事故的当事人，不得享受隐患奖励。

5.8.2.3 Each team leader shall review and check the application for rewards for hidden dangers reported by team members.

各班组长对班组人员上报隐患奖励申请进行审核把关。

5.8.2.4 Evidence should be attached when filling in the application form: pictures, DCS operation records, etc. It can be handled first and then declared in an emergency.

填报申请表时应附证据：图片、DCS 操作记录等，紧急情况下可以先处置后申报。

5.8.2.5 All hidden hazards that need to be declared for rewards must be registered in the "Hidden Hazard Investigation and Management Ledger". Unregistered hidden hazards will not be rewarded, and those that have not been registered and reported for rewards will be assessed in accordance with the relevant provisions of the department.

所有需申报奖励的隐患，必须在《隐患排查治理台账》中登记，未登记的隐患不予奖励，且未登记并报奖励的，按照部门相关条款进行考核。

### 5.8.3 Scope of reward declaration 奖励申报范围

#### 5.8.3.1 Hidden danger reward details 隐患奖励明细

1) It is found that there are major hidden dangers in process operation and design, which may cause greater consequences.

发现有工艺操作及设计中有重大隐患，可能造成较大后果的。



2) It is found that "running, emitting, dripping, or leaking" in combustible, flammable, explosive, toxic and harmful areas may cause greater consequences.

发现可燃、易燃易爆、有毒有害区域有“跑、冒、滴、漏”的可能造成较大后果的。

3) Random discharge in the company area may cause environmental pollution incidents and may cause greater consequences.

公司区域内乱排乱放，可能造成环境污染的事件，可能造成较大后果的。

4) It is found that there are illegal commands or operations that may cause greater consequences.

发现有违章指挥、违章作业，可能造成较大后果的。

5) It is found that the general medium (not highly toxic, highly corrosive, etc.) has a large leakage, which may cause large losses.

发现一般介质（非高毒、高腐蚀等）有较大泄漏，可能造成较大损失的。

6) It is found that there are hidden dangers in moving and static equipment and facilities, which may cause greater consequences.

发现动、静设备设施存在隐患，可能造成较大后果的。

7) There are major defects in the construction machinery in use, which may endanger production and personal safety.

在用施工机械存在较大缺陷，可能危及生产及人身安全的。

8) Discovery of other behaviors and phenomena that do not comply with the rules and regulations and relevant laws and regulations, which may bring greater consequences.

发现其他不符合规章制度、相关法律法规的行为和现象，可能带来较大后果的。

9) See the appendix for specific classification

具体分类见附件

#### 5.8.3.2 Evaluation criteria for hidden danger rewards 隐患奖励评估标准

The reward amount is determined according to the hidden danger discovery evaluation level (R). The level of hidden danger (R) is determined by three factors: the risk of the problem (S), the possibility of causing an accident (L), and the degree of difficulty of discovery (exclusion) (D).

The calculation formula of hidden danger level (R) is

$R=S \times L \times D$  (see the attachment for the corresponding value)

奖励额度根据隐患发现评估等级（R）确定。隐患等级（R）则由该问题的危险性（S）、造成事故的可能性（L）、发现（排除）的难度系数（D）等三个因素确定。

隐患等级（R）的计算公式为  $R=S \times L \times D$ （对应数值见附件）

### 5.9 Emergency Plan 应急预案

#### 5.9.1 Risk assessment 风险评估

Through the identification of hazard sources and environmental factors, the risks and environmental impacts of all production installations, key parts, changed projects, major hazardous facilities, major hazardous operations may cause fire and explosion, hazardous chemical leakage, personal injury, and water pollution Prepare emergency plans for emergencies and catastrophic accidents.

通过危险源辨识和环境因素识别，针对所有生产装置、重点部位、变更项目、重大危险设施、重大危险作业存在的风险和环境影响，可能引起火灾爆炸、危险化学品泄漏、人身伤害、水体污染等突发事件以及灾害性事故，编制应急预案。

### 5.9.2 Emergency plan classification 应急预案分类

The departmental emergency response plan is divided into a special process emergency response plan and an on-site emergency response plan.

部门应急预案分为分工艺专项应急预案和现场应急处置预案。

5.9.2.1 The HSE professional undertakes the preparation of on-site emergency response plans, and organizes on-site emergency response drills.

HSE 专业负责现场应急处置预案的编制，并组织进行现场处置应急演练工作。

5.9.2.2 The preparation of special emergency plan for the negative process of the technology profession, and the organization of process emergency drills.

工艺专业负责工艺专项应急预案的编制，并组织进行工艺应急演练工作。

### 5.9.3 Emergency plan review, release, filing and revision 应急预案审核、发布、备案与修订

5.9.3.1 Each professional emergency plan is reviewed by relevant professional engineers, approved by the deputy minister, and approved by the minister and reported to the company's HSE management department for record.

各专业应急预案由相关专业工程师审核、副部长审定，部长批准后报公司 HSE 管理部备案。

5.9.3.2 The plan is revised at least every three years, and the revision of the plan should be recorded, filed and filed.

预案至少每三年修订一次，预案修订情况应有记录、归档并备案。

5.9.3.3 Under any of the following circumstances, the emergency plan shall be revised in time:

有下列情形之一的，应急预案应当及时修订：

- (1) The production process and technology have changed;  
生产工艺和技术发生变化的；
- (2) The surrounding environment has changed, forming a new major source of danger;  
周围环境发生变化，形成新的重大危险源的；
- (3) The emergency organization and command system or responsibilities have been adjusted;  
应急组织指挥体系或者职责已经调整的；

(4) The laws, regulations, rules and standards on which it is based have changed;

依据的法律、法规、规章和标准发生变化的；

(5) The emergency plan drill assessment report requires revision;

应急预案演练评估报告要求修订的；

(6) Relevant regulatory documents of the superior company require revision. 上级公司相关规定文件要求修订的。

#### 5.9.4 Emergency plan drill 应急预案演练

HSE specialists formulate the next annual "Emergency Drill Plan" before January 10 each year.

HSE 专业每年 1 月 10 日前制定下一年度《应急演练计划》。

5.9.4.1 Emergency drills for process and safety are organized at least once a month.

工艺、安全专业应急演练至少每月组织一次。

5.9.4.2 The HSE professional is responsible for the drill and evaluation of the on-site emergency response plan.

HSE 专业负责现场应急处置预案的演练、评估等工作。

5.9.4.3 The technology and equipment specialty is responsible for the drill and evaluation of the technology special emergency plan.

工艺、设备专业负责工艺专项应急预案的演练、评估等工作。

5.9.4.4 After the exercise, the "Emergency Drill Scoring Form" shall be filled in in time.

演练结束后，应及时填写《应急演练打分表》。

#### 5.10 Accident management 事故管理

##### 5.10.1 Accident classification 事故分类

5.10.1.1 Accidents of personal injury and death: refer to accidents such as personal injury or death, acute poisoning, occupational disease injury, and radiation injury that occur in production and operation activities.

人身伤亡事故：指在生产经营活动中发生的人身伤亡、急性中毒、职业病伤害、辐射伤害等事故。

5.10.1.2 Fire and explosion accident: refers to the fire and explosion caused by various reasons in the production and operation activities, and cause casualties or property damage.

火灾爆炸事故：指生产经营活动中，由于各种原因引起的火灾爆炸，并造成人员伤亡或财产损失的事故。

5.10.1.3 In-plant traffic accidents: refer to accidents involving property damage or personal injury caused by vehicles driving in the plant area.

厂内交通事故：指车辆在厂区内行驶过程中造成的财产损失或人身伤亡的事故。

5.10.1.4 Radioactive source accident: The accident state caused by the use, transportation, maintenance, and inspection of radioactive sources to cause personal injury and process fluctuations.

放射源事故：用放射源在使用、运输、维修、检测过程造成人员伤亡、工艺波动引发的事故状态。

5.10.1.5 Water pollution accident: An accident that causes environmental pollution, ecological damage or property loss in the water area due to the discharge of materials or water pollutants into the water body, or causes adverse social impact.

水污染事故：由于物料或水污染物排入水体，引起水域环境污染、生态破坏或财产损失，或造成不良社会影响的事故。

5.10.1.6 Air pollution accident: An accident that causes air pollution, human health damage or property loss due to the discharge of materials or air pollutants, or causes adverse social impact.

大气污染事故：由于物料或空气污染物的排放，引起空气污染、人体健康损害或财产损失，或造成不良社会影响的事故。

#### 5.10.2 Accident classification 事故分级

According to the severity of the accident, the accident level is divided into three levels: operation departmental accident, company accident, and off-site accident.

按事故的严重程度，事故等级分为三级：运行部级事故、公司级事故、厂外级事故。

##### 5.10.2.1 Operation department level accident 运行部级事故

When one of the following situations occurs, it is a ministerial-level accident:

凡出现下列情形之一，为运行部级事故：

(1) One accident caused 1-2 minor injuries (including acute poisoning), and no work breaks exceeded 3 working days;

一次事故造成 1-2 人轻伤（包括急性中毒），歇工均不超过 3 个工作日；

(2) The direct economic loss caused by an accident is less than 200,000 yuan;

一次事故造成的直接经济损失在 20 万元以下；

(3) Pollutants do not enter the department's jurisdiction, or directly discharge high-concentration/special sewage to the salty/oily sewage system without permission, causing impact on sewage treatment plants; or the diffusion of toxic and harmful gases causes discomfort to personnel in the company;

污染物未进入部门管辖区域外，或者未经许可直接排放高浓度/特殊污水至含盐/含油污水系统，造成污水场处理冲击；或有毒有害气体扩散造成公司内人员不适；

##### 5.10.2.2 Company-level accident 公司级事故

Any one of the following situations is a company-level accident:

凡出现下列情形之一，为公司级事故：

(1) An accident caused 3 or more minor injuries (including acute poisoning); all work stops exceeded 3 working days;

一次事故造成 3 人及以上轻伤（包括急性中毒）；歇工均超过 3 个工作日以上；

(2) One accident caused serious injuries to 1 person or more;

一次事故造成 1 人及以上重伤;

(3) The direct economic loss caused by an accident is 200,000 yuan or more;

一次事故造成的直接经济损失在 20 万元及以上;

(4) Pollutants enter outside the department's jurisdiction, or directly discharge high-concentration/special sewage to the salty/oily sewage system without permission, causing serious impact on the sewage treatment plant; or the diffusion of toxic and harmful gases causes slight poisoning of personnel in the company.

污染物进入部门管辖区域外, 或者未经许可直接排放高浓度/特殊污水至含盐/含油污水系统, 造成污水处理场严重冲击; 或有毒有害气体扩散造成公司内人员轻微中毒。

#### 5.10.2.3 Off-site accident 厂外级事故

(1) One accident caused 1 or more deaths;

一次事故造成 1 人及以上死亡;

(2) Pollutants enter the surrounding area of the plant or the marine environment, and the amount of oil spilled at sea is 2 tons or more;

污染物进入厂区周边或海洋环境, 海上溢油量 2 吨及以上;

(3) Directly discharge high-concentration/special sewage to the salty/oily sewage system without permission, causing the sewage treatment plant to be paralyzed; or the proliferation of toxic and harmful gases causes poisoning in the company, or complaints from residents outside the island.

未经许可直接排放高浓度/特殊污水至含盐/含油污水系统, 造成污水处理场瘫痪; 或有毒有害气体扩散造成公司内人员中毒, 或引起岛外居民投诉。

#### 5.10.3 Accident report 事故报告

5.10.3.1 After the operation departmental level accident occurs, the team leader (or internal operation) immediately reports to the planning and adjustment department and at the same time to the person in charge of the department. The planning and dispatching department will notify the relevant department heads and company leaders in accordance with the procedures. 运行部级事故发生后, 由班组长(或内操)立即向计调部报告, 同时报告本部门负责人。由计划调度部按程序通报各相关部门负责人及公司领导。

5.10.3.2 In the event of a company-level fire, explosion accident or an accident outside the plant, the accident supervisor professional shall report the accident process, preliminary analysis of the cause, and preventive measures to the HSE Management Department as soon as possible.

凡发生公司级火灾、爆炸事故或厂外级事故, 事故主管专业要尽快将事故经过、原因初步分析、防范措施情况报告 HSE 管理部。

5.10.3.3 In the event of fire, explosion, abnormal discharge of flammable substances, toxic

and harmful gases, and serious leakage, and endanger the safety of the surrounding society, report to the company's emergency command center in time.

当装置发生火灾、爆炸，可燃物质、有毒有害气体非正常排放和严重泄漏，且危及周边社会安全时，及时上报公司应急指挥中心。

#### 5.10.4 Accident investigation 事故调查

5.10.4.1 In the event of a department-level accident, the department shall organize its own investigation. If the accident involves several departments, the competent department shall organize the investigation.

发生运行部级事故，由部门自行组织调查，事故涉及到几个部门的，由主管部门组织调查。

5.10.4.2 In the event of a company-level accident, the company's competent department will lead the organization to investigate. If the type of accident is difficult to determine for a while, the company's responsible leader shall designate a functional department to lead the investigation.

发生公司级事故，由公司主管部门牵头组织进行调查。事故类别一时难以确定的，由公司分管领导指定职能部门牵头组织调查。

5.10.4.3 In the event of an accident outside the factory, the company's in-charge leader or the competent department will lead the establishment of an accident investigation team to investigate the accident. The accident investigation team is composed of the company's in-charge leader and the HSE management department, planning and dispatching department, mechanical power department, human resources department and other departments.

发生厂外级事故，由公司分管领导或主管部门牵头成立事故调查组对事故进行调查，事故调查组由公司分管领导及 HSE 管理部、计划调度部、机械动力部、人力资源部等部门组成。

5.10.4.4 If the accident level is difficult to determine for a while, the investigation should be organized at a high level first.

如事故等级一时难以确定的，则先按高等级组织调查。

5.10.4.5 When investigating the responsibility of an accident, it is necessary to find out the direct cause, indirect cause, main cause, and secondary cause of the accident, and distinguish between the direct and main responsible persons of the accident.

在调查事故责任时，要查清事故的直接原因、间接原因、主要原因、次要原因，分清事故的直接责任者、主要责任者。

5.10.4.6 The contractor's accidents shall be investigated by the competent business department and the investigation and handling of the accident shall be reported to the HSE Management Department.

承包商发生的事故，由业务主管部门组织调查，并将事故调查处理情况上报 HSE 管理部。

5.10.4.7 The contents of the accident investigation report: overview of the department where the accident occurred, time, location, process, and rescue of the accident, the casualties and economic losses caused by the accident, the cause of the accident and the nature of the

accident, the identification of accident responsibility and the responsibility of the person responsible for the accident Treatment suggestions.

事故调查报告内容：事故发生部门概况，事故发生时间、地点、经过和事故救援情况，事故造成的人员伤亡和经济损失情况，事故发生的原因和事故性质，事故责任的认定以及对事故责任者的处理建议。

5.10.4.8 The accident investigation report should be accompanied by relevant evidence materials (such as accident site schematic diagram, process flow chart, equipment structure diagram, diagrams, photos, images, technical appraisal materials, etc.).

事故调查报告应当附具（如事故现场示意图、工艺流程图、设备结构图、图表、照片、图像、技术鉴定资料等）有关证据材料。

### 5.10.5 Accident handling 事故处理

5.10.5.1 Accident handling must adhere to the principle of "Four Don'ts", that is, if the cause of the accident has not been found out, don't let it go, responsible personnel can't let it go, if corrective measures are not implemented, don't let it go, and relevant personnel have not been educated;

事故处理要坚持“四不放过”原则，即事故原因未查清不放过、责任人员未处理不放过、整改措施未落实不放过、有关人员未受到教育不放过；

5.10.5.2 If an accident is concealed or not reported, misreported, deliberately delayed to report, deliberately sabotaged the accident scene, concealed the truth of the accident, or refused to accept the investigation and refused to provide relevant information and information without proper reasons, the processing shall be aggravated.

事故发生后隐瞒不报、谎报、故意拖延不报、故意破坏事故现场、隐瞒事故真相，或者无正当理由，拒绝接受调查以及拒绝提供有关情况和资料的，加重处理。

### 5.10.6 Accident assessment 事故考核

Refer to the relevant assessment regulations of the department and company.

参照部门、公司相关考核规定执行。

### 5.11 Policy prohibiting the abuse of alcohol, drugs and drugs 禁止滥用酒精、药品及毒品政策

#### 5.11.1 Alcohol management 酒精管理

5.11.1.1 All personnel of Refinery Department 2 are prohibited from drinking or drinking alcoholic beverages during work in the plant area (including noon, duty and holiday duty hours). 炼油二部全体人员，在厂区内工作期间（包括中午、值班和节假日值班时间）禁止饮酒或饮含有酒精的饮料。

5.11.1.2 It is forbidden for anyone to drink alcohol in company offices and workplaces; it is forbidden to enter the work area when under the influence of alcohol.

禁止任何人员在公司办公室、工作场所饮酒；禁止在受到酒精影响时进入工作区域。

5.11.1.3 In the workplace, people who are found to go to work after drinking or smelling of alcohol should immediately persuade them to leave the workplace.

在工作场所，发现有酒后上班的人员或闻到满身酒气的人员，应立即劝其离开工作场所。

5.11.1.4 Drinking and driving under the influence of alcohol at any time and on any occasion are strictly prohibited.

严禁任何时间、任何场合下酗酒和酒后驾驶。

5.11.1.5 Regardless of whether there is a wine list, it is strictly forbidden to bring alcohol to the island.

无论是否有酒单，严禁携带酒精上岛。

#### 5.11.2 Drugs and narcotic management 药品、毒品管理

5.11.2.1 It is strictly forbidden for any employee to use, hold, sell, transfer, accept, request or purchase controlled drugs, narcotics, stimulants and drugs within the company;

严禁任何员工在公司范围内使用、持有、出售、转让、接受、索要或购买管制药品、麻醉剂、兴奋剂及毒品；

5.11.2.1 People who take drugs that can cause drowsiness are prohibited from entering the work area, except for drugs prescribed by a doctor or purchased from a pharmacy for medical and health purposes.

服用能引起嗜睡症状药物的人员禁止进入工作区域，因医疗和健康目的由医生开处方或从药店购得的药品除外。

5.11.2.2 It is prohibited to use (edible) any controlled drugs or drugs that may cause or cause unacceptable work performance or abnormal behavior in the work area.

禁止在工作区域内使用（食用）任何可能引起或者造成不可接受的工作表现、异常行为的受控药品或毒品。

5.11.2.3 In the workplace, if you find someone who is in a trance or behavior, you should immediately persuade them to leave the workplace (post).

在工作场所，发现有精神恍惚或举止异常的人，要立即劝其离开工作场所（岗位）。

#### 5.11.3 Precautionary Measures 预防措施

5.11.3.1 The company has established and improved this policy and implemented measures to ensure that the company does not have any incidents involving drugs, drugs and alcohol.

公司建立健全本政策，落实措施，确保公司不发生任何涉毒、药品和酒精事件。

5.11.3.2 All employees of Refinery Department 2 should study and implement Brunei's laws and regulations on the prohibition of drugs, drugs and alcohol, explain their serious harm, and



enhance their safety awareness, legal concepts and prevention and control capabilities;

炼油二部全体员工应认真学习、贯彻文莱有关禁止毒品、药品和酒精的法律法规，说明其严重危害性，增强员工安全意识、法制观念和预防控制能力；

5.11.3.3 The person in charge of the department needs to check the work status of the employees of the department regularly, and the personnel of each position have the right to focus on and follow up suspicious personnel.

部门负责人需定期对部门员工的工作状态进行检查，各岗位人员有权对可疑人员进行重点关注和跟踪。

## 6 Inspection and supervision 检查及监督

6.1 The HSE specialty is responsible for supervising and inspecting the implementation of the HSE Comprehensive Management Rules of Refinery Department 2, and reflecting the inspection results in the performance appraisal.

HSE 专业负责对《炼油二部 HSE 综合管理细则》执行情况进行监督检查，并将检查结果在绩效考核中体现。

6.2 Matters not covered refer to the company's HSE professional management system.

未尽事宜参照公司 HSE 专业管理制度执行。

## 7 Appendix 附则

7.1 These rules are managed by the HSE professional

本细则由 HSE 专业归口管理。

7.2 See Table 1 for the compilation and approval of this system version.

本制度版本编制和审批情况见表 1。

表 1 文件版本编制和审批情况

1	21/10/2020	He Kun 何昆	Hai Cheng 海诚	Sun Jian Huai 孙建怀
Version 版本	Issue Date 颁布日期	Editor 编制人	Reviewer 审核人	Approver 批准人

## 8 Attachment 附件

**Attachment 1:****附件 1:****“Inspection of Hidden danger and Safety” Reward Evaluation Criteria****“查隐患 保安全”奖励评估标准**

The reward amount is determined according to the Hidden danger level (R). The Hidden danger level (R) is determined by three factors: the hazards (S), the possibility of causing an accident (L), and the difficulty coefficient of finding (removing) (D).

奖励额度根据隐患发现评估等级（R）确定。隐患等级（R）则由该问题的危险性（S）、造成事故的可能性（L）、发现（排除）的难度系数（D）等三个因素确定。

**Hidden danger (problem) and severity of environmental impact (S)**

隐患（问题）危险性及其环境影响严重性（S）

Score 分值	Possible consequences 可能造成的后果	Severity of environmental impact 环保影响严重性	Property loss 财产损失
5	<p>1. Accidents (permanent injuries or hospitalization for more than 24 hours) that may cause death of 3 or more persons, or cause injuries to more than 30 people.</p> <p>1.可能造成 3 人及以上人员死亡或造成 30 人以上人员受伤、产生健康影响的事故（永久伤害或住院治疗 24 小时以上）；</p> <p>2. Large amount of leakage of toxic and harmful, flammable and explosive gases, and other dangerous events that may cause accidents and equipment shutdown.</p>	<p>1. It takes more than one year to recover from the damage to achieve the equivalent performance before the accident.</p> <p>1.对环境损害需要一年以上恢复期才能达到灾变前的等效性能。</p> <p>2. Leakage or loss of materials, waste oil, etc.; and these abnormal discharges</p>	<p>May cause loss of more than USD 5 million.</p> <p>可能造成 500 万美金以上损失</p>

	<p>2.高浓度有毒有害、易燃易爆气体较大量泄漏，及其他可能造成灾难及装置停工的较大危险性事件。</p> <p>3. There may be sudden boiling, tearing and sinking of the floating plate of the storage tank.</p> <p>3.可能出现储罐突沸、撕裂、浮盘沉没等事件的。</p> <p>4. Collision between ship and shore, and damage of ship and shore during dock operation.</p> <p>4.码头作业中出现船、岸冲撞，船、岸毁损事件。</p>	<p>may cause the amount of discharge sewage and flue gases to exceed the company's standard, and cause pollution to areas beyond the plant boundary, and operation sea area, etc. and face penalty from Brunei government.</p> <p>2.物料、污油等泄漏或跑损、异常排放，可能造成外排污水及外排烟气超过企业排放标准，或对厂界以外区域、作业海域等造成污染，面临文莱政府处罚的。</p>	
4	<p>1. Accidents (permanent injuries or hospitalization for more than 24 hours) that may cause death of 1 to 3 persons, or multiple injuries and health effects.</p> <p>1.可能造成人员死亡 1~3 人或造成多人受伤、产生健康影响的事故（永久伤害或住院治疗 24 小时以上）；</p> <p>2. Large amount of leakage of toxic and harmful, flammable and explosive gases, and other dangerous events that may cause accidents and equipment shutdown.</p> <p>2.高浓度有毒有害、易燃易爆气体较大量泄漏，及其他可能造成灾难及装置停工的较大危险性事件。</p> <p>3. There may be sudden boiling, tearing and sinking of the floating plate of the storage tank.</p> <p>3.可能出现储罐突沸、撕裂、浮盘沉没等事件的。</p>	<p>1. It takes 3 to 12 months to recover from the damage to achieve the equivalent performance before the accident.</p> <p>1.对环境损害需要 3 到 12 个月恢复期才能达到灾变前的等效性能。</p> <p>2. Leakage or loss of materials, waste oil, etc.; and these abnormal discharges may cause the amount of discharge sewage and flue gases to exceed the company's standard, and cause pollution to areas beyond the plant boundary, and operation sea area, etc.</p>	<p>May cause loss of USD 1 to 5 million</p> <p>可能造成 100~500 万美金损失</p>

	<p>4. Collision between ship and shore, and damage of ship and shore during dock operation.</p> <p>4.码头作业中出现船、岸冲撞，船、岸毁损事件。</p>	<p>and face penalty from Brunei government.</p> <p>2.物料、污油等泄漏或跑损、异常排放，可能造成外排污水及外排烟气超过企业排放标准，或对厂界以外区域、作业海域等造成恶臭污染及在文莱政府等造成负面影响。</p>	
3	<p>1. Accidents that may cause permanent disabilities or injuries of personnel for more than 3 months, and cause non-permanent injuries or health impact of more than 3 people.</p> <p>1.可能造成人员永久性局部残疾或重伤治疗三个月以上的以及造成3人以上非永久性伤害或健康影响的。</p> <p>2. Small leakage of high concentration of toxic and harmful, flammable and explosive substances, or a large amount of leakage of less dangerous medium such as diesel, or any other general dangerous events that may cause accidents and equipment shutdown.</p> <p>2.高浓度有毒有害、易燃易爆体少量泄漏，或柴油等危险性较小介质较大量泄漏，及其他可能造成事故及装置停工的一般危险性事件。</p> <p>3. There may be incidents of damage to facilities such as tank roof and floating plates.</p> <p>3.可能出现储罐冒罐、浮盘等设施损坏事件的。</p> <p>4. Damage of ship and shore facilities occurs during dock operation.</p> <p>4.码头作业中出现船、岸设施损坏的事件。</p>	<p>1. It takes several days or weeks to recover from the damage to reach the equivalent performance before the accident.</p> <p>1.对环境损害需要数天或数周恢复期才能达到事故前的等效性能。</p> <p>2. Leakage, loss and abnormal discharge of materials and waste oil may impact the sewage treatment plant, pollute the rainwater system in the plant area, and cause environmental pollution in the plant area.</p> <p>2.物料、污油等泄漏或跑损、异常排放，可能造成污水处理场冲击、污染厂区内雨水系统、造成厂区内环境污染。</p>	<p>May cause loss of USD 500,000 to 1 million.</p> <p>可能造成50~100万美金损失</p>

2	<p>1. There may be a health/safety incident with a moderate impact, or there may be multiple recordable injuries or health effects.</p> <p>1.可能出现中等影响的健康/安全事故或可能出现多个可记录受伤事件或健康影响。</p> <p>2. Leakage of less dangerous medium, and other less dangerous events that may cause accidents, and local shutdown of equipment.</p> <p>2.危险性较小介质较小量泄漏, 及其他可能造成事故、事件及装置局部停工的较小危险性事件。</p> <p>3. Increase risk of subsequent process operations, such as the cross-linking of non-similar oil products in storage tanks</p> <p>3.出现储罐非同类油品互串等增加后续工艺作业风险的事件</p>	<p>The material leakage and abnormal discharge do not cause pollution in the area, and can recover within 3 days.</p> <p>物料的跑冒滴漏、异常排放, 尚未造成区域内环境污染, 在 3 天以内能够恢复等效环境的事件。</p>	<p>May cause loss of less than USD 500,000.</p> <p>可能造成 5 万美元以下损失</p>
1	<p>Incidents that are not up to the level listed above</p> <p>有事件发生, 达不到以上内容所列级别的</p>	<p>Not up to the level listed above</p> <p>达不到以上内容所列级别的</p>	<p>Minor loss</p> <p>较小损失</p>

## Possibility of causing accidents (problems) in a short time (L)

隐患（问题）短时间内造成事故的可能性（L）

Score 分值	Possibility 可能性
3	May cause accidents in a short time 短时间内可能造成事故
2	No accidents within hours 几小时内不会造成事故
1	No accidents within one shift working hours or longer 一个轮班甚至更长时间不会造成事故

## Difficulty coefficient of findings (D)

发现的难易程度（D）

Score 分值	Possibility 可能性
1	Extremely difficult to find, requires careful and technical content 极难发现，需要认真仔细且有一定技术含量
0.8	Difficult to find, requires to be careful 较难发现，需要认真仔细
0.5	Easier to find 较易发现

## "R" Value and Reward Limit Correspondence Table

"R"值及奖励额度对应表

R value R 值	Reward amount (BND) 奖励金额（文币）	Grade 分级
15 and above 15 分及以上	Special approval 特别审批	Company level 公司级
10--14.9	1000-1999	Company level

		公司级
7--9.9	400-999	Company level 公司级
4--6.9	50-399	Company level 公司级
3--3.9	20-49	Department level 部门级
3 and below 3分以下	0-19	Department level 部门级

HYBN No.2 Refinery Dept  
恒逸实业(文莱)炼油二部

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**Attachment 2:****附件 2:****Suggestive Reference Classification of Hidden danger Problems****隐患问题提示性参考分类**

1. It is found that there is major Hidden danger in process operation and design, which may cause major consequences.

发现工艺操作及设计中有重大隐患，可能造成较大后果的

Table 1

表 1

Serial Number 序号	Content 内容	Remarks 备注
1	The temperature of the device body exceeds the normal operating temperature. 设备本体温度超出正常工况温度的。	
2	Equipment and pipeline site thermometers exceed the limit. 设备及管道现场温度计超限位	
3	If the process pressure index exceeds the pressure specified by the process card, there is no downward trend 工艺压力指标超出工艺卡片规定的压力无回落趋势的。	
4	The pressure of the pressure vessel exceeds the design pressure during operation. 运行中压力容器压力超出设计压力的。	
5	The pressure gauge of the equipment and pipeline site exceeded the limit. 设备及管道现场压力表超限位的。	
6	The liquid level indication exceeds the upper limit after adjustment without any signs of falling. 液位指示超上限经调整无回落迹象的。	
7	The liquid level indication has been adjusted beyond the lower line without any increase. 液位指示超下线经调整无上升迹象的。	
8	Pump motor exceeds rated current. 机泵电机超出额定电流的	
9	Single device exceeds rated power or design load. 单台设备超出额定功率或设计负荷的。	
10	Floating tray landing abnormally during tank operation (non-cleaning operation, etc.)	



	储罐运行中浮盘非正常落地（非清罐作业等）	
11	Violation of electrostatic protection regulations during on-site sampling and ruler operations 现场采样、检尺作业中违犯静电防护规定	
12	Violation of electrostatic regulations during the process 工艺过程中违犯静电规程超流速作业的	

2. It is found that “flammable, combustible, explosive, poisonous and harmful areas have “defected, seeping, dripping, leaking ” and odors are found on site. It was predicted that there may be leaks at the dynamic and static sealing points in the area, and confirm the leakage or other hazards.

发现可燃、易燃易爆、有毒有害区域有“跑、冒、滴、漏”的以及发现局部区域有异味，判断区域内动、静密封点可能有泄漏并确定泄漏部位的，可能造成较大后果的。

Table 2

表 2

Serial number 序号	Contents 内容	Remark 备注
1	Flange gaskets are defected and cause fluid leakage. 法兰垫片装偏造成液体泄漏的	
2	Flange bolts are missing or not tightened causing fluid leakage. 法兰螺栓缺失或未拧紧造成液体泄漏的	
3	Groove marks on the flange sealing surface caused liquid leakage. 法兰密封面有沟痕造成液体泄漏的	
4	After the flange leaked, the leak worsens under pressure. 法兰泄漏后带压堵漏再次泄漏的	
5	The large valve seal is leaking and leaking. 阀门大盖密封松动泄漏的	
6	Missing valve packing caused leakage. 阀门盘根缺失造成泄漏的。	
7	Leakage of valve packing gland caused leakage. 阀门盘根压盖松动造成泄漏的	
8	There is a leak in the valve manufacturing defect body. 阀门制造缺陷本体有泄漏的。	
9	Leakage caused by corrosion thinning or pitting perforation of pipelines. 管线受腐蚀减薄或点腐蚀穿孔造成泄漏的	
10	Pipeline elbows, reducers, tees, etc. are subject to erosion, thinning and leakage. 管线弯头、变径、三通等部位受冲刷减薄泄漏的	
11	Pipeline welds are not welded or leaked due to defects such as slag inclusions. 管线焊口未焊透或有夹渣等缺陷造成泄漏的	

12	The heat-affected zone of the pipeline weld was leaked due to cracks that were not handled properly. 管线焊口热影响区未进行正确处理造成裂纹而泄漏的	
13	There are leaks in the manufacturing defects of containers and towers. 容器及塔罐等本体制造缺陷有泄漏的	
14	Leakage of aging cracks in soft pipe connections 管道软连接老化裂纹泄漏的	
15	The drain or vent valve leaks without being closed. 导淋或放空阀门未关严而泄漏的	
16	Leaking or venting valve malfunctions and leaks. 导淋或放空阀门故障而泄漏的	
17	Leaks from cold-exchange equipment tube boxes or large caps 冷换设备管箱或大帽子泄漏的	
18	The pump seal leaked. 机泵密封故障泄漏的	
19	The pressure gauge is leaking because it is not tightened. 压力表表座未拧紧而泄漏的	
20	The gauge body has damaged and leaked. 压力表表体损坏而泄漏的	
21	Threaded valve leaks due to defective or untightened threads. 螺纹连接的阀门因螺纹缺陷或未拧紧而泄漏的	
22	The glass level gauge on site was damaged and leaked. 现场玻璃板液位计损坏而泄漏的	
23	The flange seal is leaking. 法兰密封有泄漏的	
24	Various joints are leaking. 各种接头密封有泄漏的。	
25	Leakage at the dynamic seal point. 动密封点有泄漏的。	
26	Welded seams and cracks. 焊缝砂眼、裂纹泄漏的。	
27	Deformation leaks at the site of stress concentration. 应力集中的部位变形泄漏的。	
28	Leakage from high and low temperature erosion parts. 受高温、低温冲蚀的部位泄漏的。	
29	After welding, the machined parts leaked. 焊接后又经机械加工的部位泄漏的。	
30	Leaks from parts that have been corroded by certain corrosive substances for a long time. 长期受某些腐蚀性物质侵蚀的部位泄漏的。	
31	Leaked parts after repeated repair welding. 经多次补焊的部位泄漏的。	
32	The valve packing is leaking. 阀门盘根泄漏的。	

33	Large valve seal leaking. 阀门大盖密封泄漏的	
34	The PSV has internal leakage 安全法内漏的。	
35	Leaks in vent valve and drain valve. 放空阀、排凝阀内漏的。	
36	The thread seal is leaking. 螺纹密封泄漏的。	

3. Incidents in the company area may cause environmental pollution issues, which may have greater consequences.

Table 3

表 3

Serial number 序号	Contents 内容	Remark 备注
1	During normal production, materials are directly discharged into the ground and trenches. 正常生产中有物料直接排入地面、地沟的。	
2	When the device is started or stopped, and abnormal materials are directly discharged into the ground or trench. 装置开停工及非正常状态物料直接排入地面、地沟的。	
3	The sewage oil and sulfur-containing sewage of the installation have not been transported closed or directly discharged. 装置油污、含硫污水未采取密闭输送或直接排放的。	
4	Sewage and sludge are directly discharged into the ground and open trench. 污水、污泥直接排入地面、明沟的	
5	Alkali residue, scum, sludge, coke powder, etc. are piled up or illegally transferred in the open. 碱渣、浮渣、污泥、焦粉等露天堆放或非法转移的。	
6	Dangerous waste solids (waste catalyst, sludge, etc.) are stored without protection or illegally transferred. 危险废固（废催化剂、污泥等）无保护存放或非法转的。	
7	Dumping or disposing of hazardous waste or other harmful substances. 倾倒或处置危险废物或者其他有害物质的。	
8	The device emits toxic gas under any circumstances. 任何情况下装置排放有毒气体的。	
9	The installation of noise exceeding the national standard may be found and punished by the Brunei government. 装置出现连续性超过国家规定标准的噪声可能被文莱政府发现处罚的	
10	The odors in the area may affect the lives of the residents below the island.	

	区域有异味飘散可能给岛下居民生活带来影响的	
11	.....	

4. There are illegal commanding and illegal operations (discussed in accordance with company regulations), which may cause major consequences. 作业行为有违章指挥、违章作业（违章行为按照公司规定处置），可能造成较大后果的。

Table 4

表 4

Serial number 序号	Contents 内容	Remark 备注
1	The operation is not arranged in accordance with production regulations, systems and safety technical measures. 不按生产规程、制度和安全技术措施安排作业的。	
2	Changes in safety processes and operating procedures without prior change management procedures has been made. 未经过变更管理程序，擅自更改安全工艺和操作规程安排作业的。	
3	Assigning unqualified personnel to carry out professional operations. 指挥无相应资质的人员进行专业作业的。	
4	Command workers to take risks under conditions in which safety protection facilities or equipment are defective and Hidden dangers has not been removed. 指挥工人在安全防护设施或设备有缺陷、隐患未解除的条件下冒险作业	
5	Assigning unsuitable employees for risky tasks. 指派身体状况不适合的员工进行风险性作业的。	
6	Posts with relevant duties such as guardianship and management, who are found not to stop illegal violations. 具有监护和管理等相关职责的岗位，发现违章不制止的。	
7	Those who do not operate in accordance with production regulations, systems and safety technical measures. 不按生产规程、制度和安全技术措施作业的。	
8	Those who have not obtained the corresponding qualification certificates for professional operations. 未取得相应的资格证书进行专业作业的	
9	Risk identification and protective measures have not been carried out. 未进行风险识别和防护措施确认进行风险作业的。	
10	Risky operation under the conditions of defective safety protection facilities or equipment and hidden dangers. 在安全防护设施或设备有缺陷、隐患未解除的条件下冒险作业的。	
11	Working without wearing necessary protection gears. 未穿戴好必要的劳动保护用品而进行作业的。	
12	Forcibly insisting on work when you are unwell.	

	身体状况不适时强行坚持作业的。	
13	Violating one of the violations listed in the company's labor discipline management regulations. 有违犯公司劳动纪律管理规定中列举的违纪现象之一的。	
14	Violates one of Brunei's laws or regulations. 有违犯文莱法律或规定的行为之一的。	
15	.....	

5. It is found that the general medium (non-highly toxic, high corrosion, etc.) has a large leakage, which may cause major losses.

发现一般介质（非高毒、高腐蚀等）有较大泄漏，可能造成较大损失的。

Table 5

表 5

序号 Serial Number	内容 Contents	备注 Remarks
1	See water on the ground and judge that there is a leak in the groundwater pipeline. 地面见水，判断地下水管线有泄漏的。	
2	Fire hydrant failure caused running water. 消防栓故障造成跑水的	
3	Fresh water, circulating water, chemical water, sewage and other pipeline valves and pipe failures caused running water. 新鲜水、循环水、化学水及污水等管线阀门、管件故障造成跑水的。	
4	Fresh water, circulating water, chemical water, sewage and other emptying and drainage valves have not been closed tightly, causing running water. 新水、循环水、化学水及污水等放空、排凝阀未关严造成跑水的。	
5	Use fire water, circulating water, chemical water for flushing the ground, watering flowers or other purposes without permission. 私自接用消防水、循环水、化学水冲地面、浇花或作他用的。	
6	Temporary power line connection is not standardized. 临时用电线路搭接不规范的。	
7	All kinds of electric wires and circuits are connected by sparks. 各类电线电缆虚接打火的。	
8	Fog flashover caused by dust in porcelain bottles. 变电路因瓷瓶有尘土而造成雾闪的。	
9	Under normal production conditions, steam is discharged under pressure (non-steam normal exhaust pressure). 正常生产状态下有蒸汽带压排放的（非蒸汽正常排压）。	
10	There is a leak in the steam line. 蒸汽线路有泄漏的	

11	Frequent water hammer on steam lines may cause pipeline damage. 蒸汽线路频繁水击，可能带来管线损伤的。	
12	There are leaks in purified and non-purified air systems. 净化风、非净化风系统有泄漏的	
13	Purified air and non-purified air are not vented, and condensation is not strictly controlled. 净化风、非净化风放空、排凝未关严的。	
14	There is a leak in the nitrogen system. 氮气系统有泄漏的。	
15	Ignore the nitrogen requirements and use nitrogen to sweep the ground or use it for other purposes. 无视节氮气要求，用氮气吹扫地面或作他用的	
16	Nitrogen, wind, water and other media are in series. 氮气、风、水等介质互串的	
17	.....	

6. It is found that there are hidden dangers in dynamic and static equipment and facilities, which may cause greater consequences.

发现动、静设备设施存在隐患，可能造成较大后果的。

Table 6

表 6

Serial Number 序号	Contents 内容	Remarks 备注
1	The equipment facility body has major damage or manufacturing defects. 设备设施本体有重大损伤或制造缺陷的	
2	Static equipment safety accessories are incomplete or incomplete. 静设备安全附件不全或安全附件不完好的。	
3	Mechanical equipment safety protection facilities are incomplete or incomplete. 机械设备安全防护设施不全或防护设施不完好	
4	Electrical equipment grounding facilities are not complete. 电器设备接地设施不完好的	
5	The explosion-proof level of electrical equipment does not meet the site environment. 电器设备防爆等级不满足现场环境的	
6	Damaged electrical equipment insulation protection. 电气设备绝缘保护破损的	

7	Special equipment was not maintained as required. 特种设备未按规定进行维护保养的	
8	The upper and lower passages within the device, such as the structure, platform, and building, do not meet the specifications. 装置内构架、平台、建筑物等上下通道不符合规范的	
9	Ladder and platform in the device are corroded or cracked or the corrosion is thinned to form a hidden safety hazard. 装置内梯子、平台腐蚀开裂或腐蚀减薄形成安全隐患的	
10	Instrumentation signal distortion, drift, and no relevant confirmation and maintenance. 仪器仪表出现信号失真、飘移且没有相关确认和维护的	
11	Poisonous, harmful and corrosive articles are not classified according to their nature and requirements, or the storage facilities are not matched. 有毒有害及腐蚀性物品未按其性质及要求分类存放或存放设施不匹的	
12	Excessive vibration occurred during the operation of mechanical equipment. 机械设备运行中出现震动超标的	
13	Too loud or noisy during the operation of mechanical equipment. 机械设备运行中声音过大或有杂音	
14	The rotation frequency of mechanical equipment is unstable and there is a loss of rotation. 机械设备转动频率不稳有丢转现象的	
15	The temperature of the machine body or bearing end is too high. 机械设备本体或轴承端出现超温的	
16	Electrical equipment is unstable or over-current. 电器设备出现电流不稳或超电流现象的	
17	The mechanical and electrical equipment parts are loose and friction occurs, which produces noise or sparks. 机电设备部件松动发生磨擦产生响声或冒火星的	
18	Leakage of liquid transfer equipment seal. 液体输送设备密封泄漏的	
19	The liquid delivery equipment is evacuated. 液体输送设备抽空的	
20	Turning the device suddenly stopped by itself. 转动设备突然自行停止运行的	
21	Loose anchor bolts of rotating equipment may affect operation. 转动设备地脚螺栓松动，可能影响运行的	
22	.....	

7. There are major defects in the construction machinery in use, which may endanger production and personal safety.

在用施工机械存在较大缺陷，可能危及生产及人身安全的。

Table 7

表 7

Serial Number 序号	Contents 内容	Remarks 备注
1	Unlimited or limitless safety devices of large machinery are inflexible, unreliable, and artificially deactivated 大型机械无限位保险装置或限位保险装置不灵活、不可靠、被人为停用	
2	Large machines have inflexible rotating parts. 大型机械有转动部位不灵活的	
3	Hoisting mechanical hook insurance is not reliable. 吊装机械吊钩保险不可靠的	
4	Lifting machinery wire ropes, lifting straps, buckles, etc. do not meet the requirements. 吊装机械钢丝绳、吊装带、卡扣等不符合要求的	
5	Before hoisting machinery. 吊装机械作业前	
6	The load of the lifting object and the lifting machinery are not matched. 吊装物及吊装机械负荷不匹配的	
7	Inadequate bundling, hanging or imbalance may cause slipping. 捆绑、吊挂不牢或不平衡，可能造成滑落的	
8	The crane support is not fully extended, and the support is not lifted on the solid stone ground or load-bearing sleepers. 吊车支撑未全伸出、支撑未落在坚石地面或承重枕木上起吊的	
9	During the hoisting operation, there are attachments or personnel on the hoisted objects. 吊装作业时被吊装物有附着物或有人员在上面的	
10	The dim light at the hoisting site cannot meet the observation needs. 吊装现场光线昏暗不能满足观察需要的	
11	Severely worn or aged mechanical parts are not suitable for continued operation. 机械配件严重磨损或老化不适宜继续作业的	

8. Other actions and phenomena that may affect production safety and personal safety, as well as non-compliance with relevant laws and regulations, may cause greater consequences.



其他可能影响安全生产和人身安全以及不符合相关法律法规的行为和现象，可能造成较大后果的

Table 8

表 8

Serial Number 序号	Contents 内容	Remarks 备注
1	Vehicles speeding on the site. 场内车辆超速行驶的	
2	Foreign objects such as structures and buildings may fall and injured people. 构筑物、建筑物等高处有异物可能坠落伤人的	
3	Have parabolic behavior. 有高空抛物行为的	
4	Intentional damage to public equipment, facilities and equipment. 故意损害公共设备、设施和器材的行为	
5	Rainwater wells, sewage wells, valve wells, ditches, etc. are not covered or the cover is not secure. 雨水井、污水井、阀门井、暗沟等未加盖或盖子不牢的	
6	There is no corresponding label or description in the hazardous work place. 危险作业场所无相应标示或说明的	
7	No cordon was pulled in the construction area. 施工区域未拉警戒绳的	
8	Roadside construction without fences and police lights. 路边施工未设围挡和警灯的	
9	Excessive noise, dust and other pollution in the workplace. 作业场所噪声、粉尘及其他污染超标的	
10	Suspicious objects of unknown origin were found in the installation area and office area. 装置区、办公区发现来路不明的可疑物品	
11	Incidents that could have a serious negative impact on the company. 有可能给公司造成严重负面影响的事件	